

Curriculum Vitae



Moutaman Mirghani Daffalla Elbasheer

Institute of Space Research and Aerospace (ISRA)

National Center for Research (NCR), Sudan

Cell (+249) 91 885 5389 (+WhatsApp No.)

Skype ID [moutamanmirghani](#)

Email moutaman.mirghani@ncr.gov.sd

mtnmir@gmail.com

Homepage www.linkedin.com/in/moutaman-mirghani-9372a712

www.researchgate.net/profile/Moutaman-Mirghani-2

PERSONAL

Nationality:	Sudanese
Marital Status:	Married
Children:	Four sons and a daughter

PROFILE

I am a Professor at the National Center for Research (NCR), Ministry of Higher Education and Scientific Research in Sudan. I was the Director of the Institute of Space Research and Aerospace (ISRA) under NCR between 13/07/2013 and 29/03/2018, and 24/8/2020 and up to 01/12/2021. Also, I was the R&D Director at AACID Turkey in Istanbul between 01/12/2021 and 01/02/2023.

I am Adjunct Professor at the University of Khartoum, teaching both under and postgraduate students. I was Associate Professor at Karary University, since 15/03/2011 and till 01/12/2013. I have excellent skills in research, teaching and industry and published two textbooks in Arabic and one in English, as well as many papers and articles on journals and open books. I have supervised many academic research dissertations.

EDUCATION

- **Ph.D., Electrical Engineering**, University of Khartoum, 2009, Dissertation: *Radar Signal Coding, Approach Applying DSP*.
- **M.Sc., Electrical Engineering**, University of Khartoum, 1998, Dissertation: *Automation of Manually Operated Search Radar*.
- **B.Sc., Electrical Engineering**, University of Khartoum, 1989, Dissertation: *Design of Frequency Hopping Modulator*.
- **Sudanese Certificate**, Al-Moutamar High Secondary School, 1984, Major Theme: Science and Mathematics.

RECOGNITION

- Best Paper in ICCEE 2013 Conference, IEEE Sudan Subsection, Aug 2013.
- Telecom Prize for the Best Graduated Student in Telecommunications Engineering from the University of Khartoum, Nov 1989.

TEACHING POSITIONS

- **Adjunct Professor**, University of Khartoum (contract), Nov 2017 – Present.
- **Visiting Professor**, Ethiopian Space Science & Technology Institute, July 2017.
- **Associate Professor**, Karary University, March 2011 – Dec 2013.
- **Assistant Professor**, Karary University, March 2005 – March 2011.
- **Lecturer**, Karary Academy of Technology, Oct 2002 – March 2005.
- **Teaching Assistant**, University of Khartoum 1989 – 1990 and 1993 – 1998.

ENGINEERING POSITIONS

- **R&D Director**, AACID Turkey, Istanbul, Dec 2021 – Present.
- **Project Manager**, ISRASAT1 Cube Satellite, ISRA, Mar 2018 – Aug 2020.
- **Telecom Engineer**, ONEm Company, Silicon Osais, Dubai, Dec 2014–Jan 2015.
- **Systems Engineer**, Vega Aeronautics and Engineering Systems Company, MIC-Sudan, July 1998 - Oct 2002.
- **Researcher**, Research Department, Military Industry Corporation (MIC), Sudan, Aug 1994- July 1998.
- **Engineer**, Rudwan Contractors Co., Khartoum, March 1993 - Aug 1994.
- **Electrical Engineer**, Beverage Company, Tripoli-Lybia, May 1990- Feb 1993.

ADMINISTRATIVE POSITIONS

- **Director**, Institute of Space Research and Aerospace (ISRA), National Center for Research, between July 2013 – March 2018, and Aug 2020 – Dec 2021.
- **Director**, Communication and Navigation Research Center, College of Engineering, Karary University, 2008 - 2012.
- **Director (Founder)**, Nile Center for Technology Research (NCTR), Formerly Nile Electronic Systems Center (NESC), Sudan, 2005 - 2007.
- **Technical Manager**, Modernization of the Air Defense Surveillance Radar Network Project, Sudan A/D and MIC-Sudan, 2000-2002.
- **Head**, Systems Department, Vega Aeronautics and Engineering Systems Company, MIC-Sudan, 1998 - 2002.
- **General Secretary**, Engineering Society of Students, Faculty of Engineering, University of Khartoum, 1987.

EXECUTIVE CONTRIBUTIONS

- **National Coordinator** of Sudan, World Space Week Association, since 2015.
- **Official Representative** (Sudan Delegate), UN Committee of Peaceful Uses of Outer Space, Vienna 2014 and 2016, New York 2015.
- **Member**, Executive Committee for the Agreement between Sudan and South Africa on Scientific and Technological Cooperation, 2015.
- **Chief**, Committee of Recruitment, National Center for Research, 2014.

SCIENTIFIC CONTRIBUTIONS

- **Chair Person**, 5th Int. Conference on Aerospace Science and Engineering ICASE'17, Institute of Space Technology, Islamabad, 14-16 Nov 2017.
- **Chair Person**, Applications and Systems Session, ICCCEE17, 3rd IEEE Conference, Khartoum, 16-17 Jan 2017.
- **Rapporteur**, Remote Sensing and Space Technology Theme, 10th Scientific Conference of National Center for Research, Khartoum, 1-3 Dec 2015.
- **Chair**, Embedded Systems Track, ICCNEEE15, 2nd IEEE Conference, Khartoum, 7-9 Sept 2015.

ACADEMIC CONTRIBUTIONS

- **Member**, Committee of Avionics MSc/PhD Program Syllabus, School of Aeronautics, Sudan University of Science and Technology (SUST), 2014.
- **Main Reviewer**, BSc of Electronics Curriculum of Sudan International University, Ministry of Higher Education and Scientific Research, 2013.
- **External Examiner**, Avionics Department, School of Aeronautics, Sudan University of Science and Technology (SUST), 2010-2017.
- **Member**, Committee of Evaluation of BTech Program in Sudan University of Science and Technology (SUST), Ministry of Higher Education, 2013.
- **External Examiner**, Department of Electronic and Electrical Engineering, International University of Africa, Khartoum, 2012.
- **Member**, Committee of Evaluation of Space and Communication College Programs in Future University, Ministry of Higher Education, 2010.
- **Member**, Committee of Evaluation of Kenana Technical College Engineering Diploma Programs, Engineering Council, July 2010.
- **Member**, Committee of Evaluation of Geraif Technical College Engineering Diploma Programs, Engineering Council, April 2010.
- **Chief**, Committee of Air Defense Diploma Syllabus, Technical College, Karary University, 2008.
- **Member**, Committee of Marine Studies Bachelor Program Syllabus, Marine Studies College, Port Sudan, 2008.
- **Chief**, Committee of Evaluation Rules for Graduation Projects, Electrical Engineering Department, Karary University, 2007.
- **Member**, Committee of Electronics BSc Program Syllabus, Electrical Engineering Department, Karary University, 2007.
- **Chief**, Committee of Communications and Radar BSc Programs Syllabus, Electrical Engineering Department, Karary University, 2007.
- **Member**, Joint Committee of Air Defense Bachelor Program, Karary Academy of Technology and Air Defense College, 2004.
- **Member**, Committee of Communications MSc Program Syllabus, Electrical Engineering Department, Karary Academy of Technology, 2003.
- **Member**, Joint Committee of Technical College Syllabus, Karary Academy of Technology and Military Industry Corporation (MIC), 1998.
- **Coordinator**, First Committee of Electrical Engineering Department Syllabus, Karary Academy of Technology, 1996.

TECHNICAL CONTRIBUTIONS

- **Technical Consultant and Research Advisor**, Nile Center for Technology Research (NCTR), 2008 - Present.
- **Member**, Technical Recruiting Committee for Safat Aviation Complex, Safat Aviation Company, MIC-Sudan, April 2010.
- **Technical Consultant**, Project Commissioning Technical Team, Surveillance Radar Network Project, Air Defense, Sudan, 2002-2005.
- **Member**, Technical Committee of CA Radar Network Tenders, Ministry of Civil Aviation, Sudan, 2001.
- **Member**, Project Commissioning Technical Team, Khartoum Airport Radar Project, Civil Aviation Authority, Sudan, 1997.

AFFILIATIONS AND ASSOCIATIONS

- **Fellow**, African Scientific Institute (ASI), Founded in 1967, Joined in Feb 2019.
- **Academic Member**, Athens Institute for Education & Research (ATINER), 2016.
- **Member**, Institution of Electrical and Electronic Engineers (US), **MIEEE**, 2011.
- **Member**, Institution of Engineering and Technology (UK), **MIET**, 2006.
- **Chartered Engineer**, Engineering Council (UK), **CEng**, 2002.
- **Member**, Institution of Electrical Engineers (UK), **MIEE**, 2002.
- **Associate Member**, Institution of Electrical Engineers (UK), **AMIEE**, 2001.
- **Member**, Sudanese Union of Engineers, 2000.

TRAINING COURSES

- Theory and Principles of Electronic Warfare, CETC Co. Ltd., China, 2012.
- TI Digital Signal Processors, GNH Software Co., Bangalore, India, 2012.
- BL-904 Radar System, Norinco Company, Xian, China, 2005.
- Digital Signal Processing, Accelerated Systems Co, India, 2004.
- Microcontrollers and VHDL, Indian Institute of Science (**IISc**), Bangalore, 2001.
- Computer Interfacing for Control, Jordanian University, Jordan, 1998.
- ATC PSR/MSSR Instructors Course, Marconi College, Chelmsford, UK, 1996.
- Dual Surveyor and Messenger Radars, Marconi College, Essex, UK, 1996.
- SA2 Radar System, Air Defense Institute, Port Sudan, Sudan, 1995.
- P12 Search Radar, Sudan Air Defense, Omdurman, Sudan, 1994.
- Electrical Installations, Institute of Arab Contractors Co., Cairo, Egypt, 1988.
- Aeronautical Engineering, Sudan Air Force Institute, Omdurman, 1988.

COMPUTER SKILLS

- MATLAB and Simulink.
- C/C++ Programming.
- Visual Basic (Proficiency from BrainBench Skills Authority).
- Intel 8051 Assembler using μ Vision.
- Code Composer Studio and VisualDSP++.
- EDA Tools (Proteus, OrCad, Multisim).
- Microsoft Office (Word, PowerPoint, Excel).

REFERENCES

- Prof Mohamed Ali Hamad Abbas, Faculty of Engineering, University of Khartoum, mabbas@uofk.edu, Tel: +249-924305594.
- Prof Sharief Babikir, Faculty of Engineering, University of Khartoum, shariefbabikir@gmail.com, Tel: +249-914587764.
- Prof Shambuol Adlan Mohamed, Dean College of Engineering, Mogtaribeen University, drshamboul@gmail.com, Tel: +249-912304760.
- Prof Abdel Rahim Mohamed Hamad Satti, Mogtaribeen University, asatti_99@yahoo.co.uk, Tel: +249-918416445.

PUBLISHED BOOKS

1. Moutaman Mirghani and Ahmed Awad, Chapter Title: Adaptive Coding, Modulation and Filtering of Radar Signals, Book Title: Topics in Radar Signal Processing, ISBN 978-1-78923-121-2, May 2018.
2. Moutaman Mirghani, Radar Signal Coding and Waveform Design, Lambert Academic Publishing, Germany, ISBN 978-3-659-94632-5, Sept 2016.
3. Moutaman Mirghani, Signal Analysis and Processing, Communication and Navigation Research Center, Karary University, 2012.
4. Moutaman Mirghani, Radar Principles, Karary Academy of Technology, Sudan, 2006.

SCIENTIFIC PAPERS

1. Romisaa Ali Mouhamed, Moutaman Mirghani, Components Selection of ISRASAT Series Ground Station, Journal of Instrumentation and Innovation Sciences, e-ISSN: 2456-9860 Volume-5, Issue-2, May-August, 2020.
2. Moutaman Mirghani, Analysis of Successive Coefficients FIR Filter, IEEE Conference, ICCCEEE18, DOI 10.1109/ICCCEEE.2018.8515774, Aug 2018.
3. Rehab Elmogira Hamza, Ahmed A. Babiker, Moutaman Mirghani, Simulation and Analysis of Coupled Microstrip BPF for 9.3-9.7 GHz, International Journal of Engineering Science and Innovative Technology (IJESIT), Vol. 6, Issue 6, Nov 2017.
4. Nasreldeen Ali Adam, Moutaman Mirghani, Design of Altitude Measurement System for Aerospace Applications (Digital Barometric Altimeter), Journal of Space Technology, Vol 7, No 1, July 2017.
5. Moutaman Mirghani, Conceptual Design of Radar Data Processor as Plot Extractor for Automatic Detection and Tracking, International Journal of Engineering Science and Innovative Technology (IJESIT), ISSN 2319-5967, Volume 6 Issue 2, March 2017.
6. Moutaman Mirghani, Mohamed Bek Omar, Hind Mahmoud Elhaj, Design and Implementation of Electrical Power System for ISRASAT1 Cube Satellite, International Journal of Applied Sciences and Current Research, Feb 2016.
7. Samir Ahmed Awad Mustafa, Moutaman Mirghani Daffalla, Control of Industrial Robot via GSM Networks, Sudan University of Science and Technology, Journal of Engineering and Computer Sciences (JECS), Vol. 16, No. 2, ISSN 1605- 427X, 2015.
8. Samir Ahmed, Moutaman Mirghani, Industrial Robot Control Using GSM Network, International Journal of Sciences: Basic and Applied Research (IJSBAR), Vol 14, No. 2, ISSN 2307-4531 (Print & Online), 2014.
9. Moutaman Mirghani Daffalla, Target Recognition for Low Resolution Surveillance Radar, Sudan Engineering Society Journal, Volume 56, No. 55, 2010.

10. Moutaman Mirghani, Mohammed Ali H. Abbas, A Novel Coding Method for Radar Signal Waveform Design, Sudan Engineering Society Journal, Volume 54, No. 50, March 2008.
11. Oula Ibrahim Arbab; Moutaman Mirghani, Power Line Communication Channel Modelling and System Design, 2020 International Conference on Computer, Control, Electrical, and Electronics Engineering (ICCCEEE), 2021.
12. Moutaman Mirghani, Reuse of Obsolete Dish Antenna in Radio Astronomy, 4th Middle East and Africa IAU Regional Meeting, MEARIM IV Symposium, Addis Ababa, Ethiopia, 22-25 May 2017.
13. Moutaman Mirghani, Hadeel Osman Madane, Evaluation of Quality of Encoded Quran Digital Audio Recording, ICCCEEE Conference, 3rd IEEE Conference, Khartoum, Electronic ISBN 978-1-5090-1809-3, Jan 2017.
14. Yasir Ahmed, Moutaman Mirghani, Ahmed TagElsir Osman, Design and Implementation of Communication Subsystem for ISRASAT1 Cube Satellite, ICCCEEE Conference, 3rd IEEE Conference, Khartoum, Jan 2017.
15. Moutaman Mirghani, Asia Saeed Kajo, Ahmed TagElsir Osman, Design and Implementation of an Active Attitude Determination and Control Subsystem (ADCS) for ISRASAT1 Cube Satellite, ICCCEEE Conference, 3rd IEEE Conference, Khartoum, Electronic ISBN 978-1-5090-1809-3, Jan 2017.
16. Moutaman Mirghani, Design of the On-board Imaging Sensor and Required Signal Processing in Monitoring of Dust Storms and Drought using Small Satellites, UN/Iran Workshop on the Use of Space Technology for Dust Storm and Drought Monitoring in the Middle East Region Workshop, Tehran, 5-9 Nov 2016.
17. Moutaman Mirghani Daffalla, Implementation of Matched Filters Using Microcontrollers, 7th Graduate School Annual Conference, University of Khartoum, SGCAC 2016, IEEE Xplore, ISBN 978-1-5090-1812-3, 20-23 Feb 2016.
18. Moutaman Mirghani, Ahmed Tag Elsir, Asia Saeed Kajo, Design and Implementation of Attitude Determination and Control Subsystem for ISRASAT1 Cube Satellite, 3rd Int. African CubeSat Workshop, Cape Peninsula University of Technology, 24-26 Feb 2016.
19. Moutaman Mirghani, Yasir Ahmed Idris, Ahmed TagElsir Ahmed, Design and Implementation of Beacon Subsystem for ISRASAT1 Cube Satellite, 3rd Int. African CubeSat Workshop, Cape Peninsula University of Technology, 24-26 Feb 2016.
20. Hala Almubarak; Moutaman Mirghani, Cubesat Program Development in African Countries, 3rd Int. African CubeSat Workshop, Cape Peninsula University of Technology, 24-26 Feb 2016.
21. Moutaman Mirghani, Hoyam Abobaker, Eshraga Adel, Asia Saeed Kajo, Orbit Design of Cube Satellite, The 10th Scientific Conference of National Center for Research, Khartoum, 1-3 Dec 2015.
22. Romisa Ali, Rogia Abed Elrahman, Moutaman Mirghani, Components Selections of ISRA Ground Station, Poster in the 10th Scientific Conference of National Center for Research, Khartoum, 1-3 Dec 2015.

23. Mussab Abdulrahim, Mujahid Abdulbagi, Waleed babiker, Yassir Mohammed Alkasim, Moutaman Mirghani, Transmitter Design for ISRA HAB-1, The 10th Scientific Conference of National Center for Research, Khartoum, 1-3 Dec 2015.
24. Yasir Ahmed, Moutaman Mirghani, Design and Selection Criterion of Imaging Device as Payload for Cube Satellite, ISNET/SUPARCO Workshop on Student Satellites, Lahore, Nov 2015.
25. Waleed Babiker, Moutaman Mirghani, Student Satellites, Implementation Models & Approaches in Sudan, ISNET/SUPARCO Workshop on Student Satellites, Lahore, Nov 2015.
26. Moutaman Mirghani Daffalla, Ahmed Tag Elsir, Asia Saeed Kajo, Hardware Selection for Attitude Determination and Control Subsystem of 1U Cube Satellite, ICCNEE15 Conference, 2nd IEEE Conference, Khartoum, Sept 2015.
27. Moutaman Mirghani, Role of Research Centers in Developing the EO and Satellite Imagery Sector, Current State of the Earth Observation Sector and Future Direction Session, Global Space & Satellite Forum GSSF 2015, Abu Dhabi, 26 May 2015.
28. Aisha Sir Elkhatem Ali, Moutaman Mirghani Daffalla, Code Synchronization for DS-CDMA, 6th International Scientific Conference on Defensive Technologies, OTEH 2014, Belgrade, 2014
29. Reem Eltayeb M. Abd Elrahman, Moutaman Mirghani Daffalla, Target Recognition Using Correlation Method, 6th International Scientific Conference on Defensive Technologies, OTEH 2014, Belgrade, 2014.
30. Moutaman Mirghani, Adaptive Multifunction Filter for Processing Radar Signals, Best Paper Prize of IEEE Conference, ICCEEE 2013, Aug 2013.
31. Moutaman Mirghani, Design and Analysis of Low Baudrate Modem Using Microcontrollers, IEEE Conference, ICCEEE 2013, Aug 2013.
32. Abdel Moneim Idris, Moutaman Mirghani, Abdel Rahim Satti and Ahmed A. Imam, Development of Computer Aided Tools for UAV Flight Control, IEEE Conference, ICCEEE 2013, Aug 2013.
33. Haitham Mohamed Shabour, Moutaman Mirghani Daffalla, Omer Abdel Razag Sharif, Performance Enhancement of the CAN Protocol Using Reed-Solomon Codes, IEEE Conference, ICCEEE 2013, Aug 2013.
34. Moutaman Mirghani Daffalla, FH/MPS Hybrid Radar Waveform, IET International Radar Conference, Gulin, China, IET Conference Publications, Issue CP551, Volume 2009.

MAGAZINES ARTICLES

1. Moutaman Mirghani, Space Technology, Research Magazine, NCR, 2015.
2. Moutaman Mirghani, Air Navigation, Saafat Magazine, July 2009.
3. Moutaman Mirghani, Radar Signal Coding, Karary Magazine, 2007.
4. Moutaman Mirghani, Embedded Systems, Karary Magazine, 2007.
5. Moutaman Mirghani, Secondary Radar, Karary Magazine, 2005.
6. Moutaman Mirghani, Cruise Missile, Karary Magazine, 2005.
7. Moutaman Mirghani, Unmanned Aerial Vehicle, Karary Magazine, 2004.

8. Moutaman Mirghani, Radar Systems, Industry Magazine, MIC-Sudan, 2003.
9. Moutaman Mirghani, Effect of Technology in Armed Forces, Arab Defense Magazine, 2003.
10. Moutaman Mirghani, Electronic Warfare, Arab Defense Magazine, 2001.

TECHNICAL AND FEASIBILITY STUDIES

1. Moutaman Mirghani, Secure Surveillance for Heglig Area, Technical Feasibility Study, Greater Nile Petroleum Operating Company (GNPOC), Feb 2014.
2. Moutaman Mirghani, Design of Modern Radar System, Shaheed Zubair Prize Context, March 2008.
3. Moutaman Mirghani, Feasibility Study for Establishing the Communication and Navigation Research Center (CNRC) in Karary University, 2007.
4. Moutaman Mirghani, Alternative Communications, Technology Department, the National Security and Intelligence Authority, 2006.
5. Moutaman Mirghani, Feasibility Study for Establishing the Nile Electronic Systems Research Center (NESC), currently NCTR, 2005.
6. Moutaman Mirghani, Technology in Air Defense and Artillery, Part of Technology Future in Armed Forces Seminar, 2005.
7. Moutaman Mirghani, Design of Aerial Surveillance System, Shaheed Zubair Prize Context, Dec 2004.

Research Supervision

PhD SUPERVISION

1. Estimation of Radar Cross Sectional Area of Target Using Simulation Algorithm, Tarig Ibrahim Osman Ahmed, Sudan Academy of Science, Completed 2018.
2. An Analytical Study of UAV Control, Abdel Moneim M. Ahmed, Karary University, Co-Supervisor, Completed 2014.
3. Investigation of Optimum Modulation and Coding Methods in Power Line Communication, Oula Arbab, Neelain University, Completed 2021.
4. Analysis and Evaluation of the Performance of Linear Predictive Coding of Arabic Language and Sudanese Accents, Hadeel Osman Madane Mohammed, Sudan Academy of Science, Completed 2021.
5. Analytical Study of MIMO Radar Transceiver and Conceptual Design Using SDR, Nehal Abdel Aziz, Karary University, Started 2015.
6. Analytical Study for Application of MIMO Technology in LTE Networks, Mohammed Hyder Awad, Karary University, Started 2015.

7. Object Tracking and Classification of Video Surveillance Using Smart Techniques, Hisham Mahmoud AL Hassan, Karary University, Started 2016.
8. Characterization and Performance Analysis of MIMO-OFDM over Free Space Optical Channel. Yassir Mohammed Alkasim, Karary University, Started 2016.
9. Performance Evaluation of Cooperative Computing in Sensor Networks, Entisar Hasan Khalifa, Gezira University, Started 2014.
10. Analysis, Design and Optimization of RF and Microwave Filters for X-Band Radar Receiver, Rehab Elmogira Hamza, Karary University, Started 2016.

MSc SUPERVISION

1. Analytical Study of Direction Finder Algorithms, Mohamed Mahmoud, Department of Electrical Engineering, Engineering College, Karary University, 2011.
2. Implementation of OFDM Transceiver Using SDR Technology, Ahmed Fayez, Department of Electronics, Engineering College, Sudan University of Science and Technology, 2011.
3. Analysis of Bit Error Rate (BER) for Digital Communication Systems, Asrar Hassan Alhaj Yassin, Department of Electrical Engineering, Engineering College, Karary University, 2011.
4. Implementation of DSP-Baseband Software Defined Radio, Emad Abdel Hafeez, Department of Electronics, Engineering College, Sudan University of Science and Technology, 2011.
5. Design of a DSP Based Handset, Ali Mohamed Siddig, Department of Electronics, Engineering College, Sudan University of Science and Technology, 2011.
6. Study and Simulation of TERCOM Navigation Algorithms, Mustafa Balla, Department of Electrical Engineering, Engineering College, Karary University, 2011.
7. Analytical Study of Positioning Systems in Cellular Networks, Fatima Abdel Haleem, Department of Electronics, Engineering College, Sudan University of Science and Technology, 2012.
8. Synchronization Techniques for DS-CDMA Systems Using Orthogonal Codes, Aisha Sir Elkhatem Ali, Communication MSc Program, Karary University, 2013.
9. Radar Target Recognition Using Artificial Neural Networks, Reem Attayeb, Communication MSc Program, Karary University, 2013.
10. Enhancing the Performance of the CAN Protocol, Haitham M Shabour, Faculty of Engineering, University of Khartoum, 2013.
11. Acoustic Echo Cancellation Using Digital Filters, Huda A. Abu Algasim, Communication MSc Program, Karary University, 2013.
12. Design and Analysis of Quad Rotor UAV, Abubakr Ali Ahmed, Mechatronics MSc Program, Sudan University of Science and Tech., 2014.

13. Design of Doppler Digital Signal Processor, Mayada Ali Hasan, Communication MSc Program, Karary University, 2014.
14. Industrial Robot control Using GSM Networks, Samir A. A. Mustafa, Embedded Systems MSc Program, Neelain University, 2014.
15. Attitude and Control of Cube Satellite, Ahmed Tag Elsir, Control Engineering MSc Program, Sudan University of Science & Technology, 2016.
16. Design of Active ADCS for ISRSAT1 Cube Satellite, Asia Saeed Kajo, Embedded Systems MSc Program, Neelain University, 2016.
17. Design and Simulation of Cubesat Transceiver, Mussab Abdulrahim Hassan, Sudan University of Science and Technology, 2019.
18. Design of Aircraft Altitude Measurement System, Nasr Eldin Adam, Avionics MSc Program, SUST, 2019.

BSC SUPERVISION

1. Design of Modem, Ahmed Fatih el Aleem, Khalid Hamid and Abdel Azeem Mamoon, Department of Electronics, Engineering College, Sudan University of Science and Technology, 1999.
2. Frequency Hopping, Asim Abdel Kareem, Khalid A. Ba'sheen and Mohamed Balooshi, Department of Electronics, Engineering College, Sudan University of Science and Technology, 1999.
3. Laser Range Finder, Arrasheed Awadel Kareem, Mutaz Suliman and Nasradin Ibrahim, Department of Electronics, Engineering College, Sudan University of Science and Technology, 1999.
4. Digital Telephone Switching, Musab Abdel Kareem, Khalid Siddig and Awad Ahmed, Department of Electrical Engineering, Faculty of Engineering, Islamic University of Omdurman, 1999.
5. Encrypted Digital Voice Channels, Basil Abdel Hadi and Yousif M. Waheeb, Department of Electrical Engineering, Faculty of Engineering, Islamic University of Omdurman, 1999.
6. Speech Encryption, Nasir Salahadin and Abubakr Gaidom, Department of Electrical and Computer Engineering, Karary Academy of Technology, 2000.
7. Radar Synthetic Display, Adil Al Hadi and Mohamed Mahmoud, Department of Electrical and Computer Engineering, Karary Academy of Technology, 2000.
8. Remote Control System, Rania Abdel Hameed and Mo'eiz, Department of Electronics, Engineering College, Sudan University of Science and Technology, 2001.
9. Artillery Control, Hashim Gaafar, Omima Abdou, Al-Shafeea and Siddig, ComputerMan College, 2001.
10. Remotely Piloted Vehicle, Hytham M. A. Shabour, Waiel Assayed, Hashim G. Jiwaily and Bassam Sobahi, Department of Electrical Engineering and Control, Sudan University of Science and Technology, 2002.

11. DMTI Filter, Fatehi Annoor and Abdel Azeem Thani, Department of Electrical and Computer Engineering, Karary Academy of Technology, 2003.
12. Using Laser in Measurements, Mustafa Balla and Salahadin Adam, Department of Electrical and Computer Engineering, Karary Academy of Technology, 2003.
13. Design of AM Modulator, Abuzar, Department of Electrical and Computer Engineering, Karary Academy of Technology, 2003.
14. Vehicle Tracking System, Husham Ahmed, Abuzar and Ma'isa H. Dahawi, Department of Electronics, Engineering College, Sudan University of Science and Technology, 2003.
15. Digital Processing of Signals, Shazali and Mohamed Osman, Department of Electrical and Computer Engineering, Karary Academy of Technology, 2004.
16. Vehicle Remote Control, Awad Aseed, Department of Electrical and Computer Engineering, Karary Academy of Technology, 2004.
17. Anti-Aircraft Gun Director, Yousif Yasin, Amr Mohamed, Osman Ahmed, Saeed Waleed and Ismail Yousif, Sudan University, 2004.
18. Unmanned Aerial Vehicle, Mohamed B. Gaily, Mohamed Omar, Musab Hasan and Nadia O. Alawb, Department of Electronics, Engineering College, Sudan University of Science and Technology, 2004.
19. Radar Data Transmission, Ahmed Abdullah and Yasir Mustafa, Department of Electrical and Computer Engineering, Karary Academy of Technology, 2005.
20. Radar Pulse Compression, Atif M. Amin and Reem Attayeb, Department of Aviation and Aeronautics, Engineering College, Sudan University of Science and Technology, 2005.
21. Radar Plot Extractor, Abdullah Arbab, Madeni A. Talha and Murtada Ahmed, Department of Aviation, Engineering College, Sudan University of Science and Technology, 2005.
22. Secondary Radar, Babiker Yahia, Mohamed Mustafa and Ibrahim Hasan, Department of Electrical and Computer Engineering, Karary Academy of Technology, 2006.
23. UAV Autopilot, Mohamed Faisal, Mohamed Farooq and Mohamed Attayeb, Department of Electrical and Computer Engineering, Engineering College, Karary University, 2008.
24. Design of BPSK Modem, Tigani Basheer and Ibrahim Ali, Department of Electrical and Computer Engineering, Engineering College, Karary University, 2008.
25. DC-DC Inverter, Husham Adam Nagi and Fawaz Assiddig, Department of Electrical and Computer Engineering, Engineering College, Karary University, 2008.
26. Guidance of UAV, Mohamed Azzain and Mohamed Attigani Omar, Department of Aviation and Aeronautical Engineering, Engineering College, Karary University, 2009.

27. Aircraft Lateral and Longitudinal Control, Faris Osman and Musaab Muhsin, Department of Aviation and Aeronautical Engineering, Engineering College, Karary University, 2010.
28. Non-Cooperative Target Recognition, Omar Hamza and Mohamed Babiker, Department of Electrical Engineering, Engineering College, Karary University, 2010.
29. Radar Signal Exploitation, Muntasir Mahgoub and Mo'eiz Suliman, Department of Electrical Engineering, Engineering College, Karary University, 2010.
30. Design of Attitude and Heading Reference System, Omar Faroog and Mohamed Hag, Department of Aviation and Aeronautical Engineering, Engineering College, Karary University, 2011.
31. Design of Identification System Used in Tracking, Awad Rayah, Noor Adaiem Osman and Abdallah Hasan Falahi, Department of Electrical Engineering, Engineering College, Karary University, 2011.
32. Conceptual Design and Performance of MAV, Abbas Gasim, Mosaab Attaj and Tawfeeq Mohamed, Department of Electrical and Computer Engineering, Engineering College, Karary University, 2012.
33. Design of Flight Control System of PTA, Ahmed Abdel Samad, Almustafa Mohd and Khalid Saeed, Department of Electrical and Computer Engineering, Engineering College, Karary University, 2012.
34. Solar Powered Aircraft, Abdel Gabbar Annour and Mohamed Hasan, Department of Electrical and Computer Engineering, Engineering College, Karary University, 2012.
35. Design of Doppler Radar, Hussien Zain ElAbdeen, Mohd Osman and Tarig Mustafa, Department of Electrical Engineering, Engineering College, Karary University, 2012.
36. Design of Passive Tracker, Assayed Ahmed, Mohamed Abdou and Mohamed Ali, Department of Electrical Engineering, Engineering College, Karary University, 2012.
37. Simulation of Frequency Hopping Radar, Mohd Abdel Moniem, Omar Ahmed and Omar Siddig, Department of Electrical Engineering, Engineering College, Karary University, 2012.
38. Using Kalman Filter for Correction of Accelerometer Readings, Ahmed Ismail, Mohd Ibrahim and Nazar Haja, Karary University, 2015.
39. Design of Communication Subsystem for ISRSAT1 Cube Satellite, Eilaf and Alaa Abakar Babie, University of Khartoum, 2018.
40. Design of Radio Telescope using SDR, Israa Abubaker and Khawla Zain, University of Khartoum, 2018.
41. Deep Space Communications, Mortada Abdulazeem Ahmed and Ahmed El Badri Al-Shaikh, University of Khartoum, 2022.
42. Design of QPSK Modem, Refga Mobarak Awadelkarim Mohamed and Wisam Ali Abdelsalam Ahmed, University of Khartoum, 2022.
43. Long-Range (LoRa) Wireless Technology, Aya Fathalrahman Sabil and Hadeel Amir Mohammed, University of Khartoum, 2022.

PROFESSIONAL RESEARCH

- 1· Design of Voice Encryption via PSTN, Kadhim Zainel Abdeen, RLab, 2004.
- 2· Design of Access Control System, Hytham M. A. Shaboor, NESCS, 2005.
- 3· Design of Vehicle Tracking System Based on GSM Networks, Haytham M. Shaboor and Mutaz Abdel Azeem, NESCS, 2006.
- 4· Design of Data Interface for Handset, Waiel Assayed, NESCS, 2006.
- 5· Design of Telephone Cabinet Control and Display, Kadhim Zain, RLab, 2006.
- 6· Design of Elevator Control System Based on FPGA, F. Ahmed, NESCS, 2006.
- 7· Design of VoIP Communication System via WAN, M. Moneim, NESCS, 2007.
- 8· Weather Satellite Receiving Station, Mohanad M. Elamin, CNRC, 2009.
- 9· Ground Radar Network, Abdelmageed Ismail Attayeb, CNRC, 2009.
- 10· Communication Over Power Lines, Yasser A. Albadawi, CNRC, 2009.
- 11· Design of Voice Encryption via GSM, DSP Research Group, NCTR, 2011.
- 12· Design of Text Terminal Adapter over HF Voice Network, Communication Research Group, NCTR, 2014.
- 13· ISRAHAB1 High Altitude Balloon Research Project, ISRAHAB1 Research Team, ISRA, 2015.
- 14· ISRASAT1 Cube Satellite Research Project, ISRA, 2016.

Research Evaluation

1. Fawaz Fathi Taha Mohamed, Framework for a Universal Integrated Programmable Controller, Ph.D. Thesis, University of Khartoum, 2021.
2. Albedair Yaseen Jafer Othman, Estimation Improvement of White Spaces of Digital TV Radio Network Technology for WiMax Spectrum, Ph.D. Thesis, University of Gezira, 2021
3. Abdalla Bashir Yousif Elmakki, Distance-Based Cognitive Radio Networks Spectrum Management and Coverage Planning, Ph.D. Thesis, University of Khartoum, 2018.
4. Khalid Abdel Rahman Hasan Ali, Design and Implementation of Digital FM Modem Based on FPGAs, M. Sc. Thesis, University of Khartoum, 2016.
5. Mujahid Mohamed Altigani, Implementation of Adaptive Modulation and Coding Technique for LTE using Matlab, M. Sc. Thesis, University of Khartoum, 2015.
6. Shakir Ahmed El Rubatabi, Study of Remote Sensing Satellites Deception Techniques, M. Sc. Thesis, University of Khartoum, 2014.
7. Asim Hassan Sirelkhatim Mohammed, FPGA Implementation of an Algorithm for Deinterleaving Radar Pulses, M. Sc. Thesis, University of Khartoum, 2014.
8. Amna Hammam, Design of Reduced Sidelobe Antenna for Satellite Communication, M.Sc. Thesis, Karary University, 2014
9. Abdel Karim N. Gudsi, Patch Strip Antenna, M.Sc. Thesis, Karary University, 2014

10. Yousif Yasin, Applying MIMO technology in LTE Networks, M. Sc. Thesis, University of Khartoum, 2013.
11. ElKhider Tayallah, Enhancement of Autopilot Using MEMS Sensors Applying CANFIS, Ph.D. Thesis, Karary University, 2013.
12. Amjad Assir, Design of Controller for XY-Plotter, M. Sc. Thesis, Karary University, 2013.
13. Sameir Mohammed Ali Hamed, Radiation from a Circular Loop Antenna, PhD Thesis, Karary University, 2012.
14. Musaab Hasan, Using Filters in Up and Down Frequency Conversion, M.Sc. Thesis, Sudan University, 2012.
15. Nafisa Khalid, Study for Use of Computer in Governmental and Public Sectors in Sudan, M. Sc. Thesis in IT, Sudan University, 2012.
16. Ahmed Fadul, Simulation of WiMax Network, M. Sc. Thesis, Sudan University, 2012
17. Nasser Salah Eldin Misbah, Inter-carrier Interference Cancellation in OFDM Systems, M. Sc. Thesis, Karary University, 2011.
18. Yasir Idris, Performance Evaluation of Different Target Tracking Methods, M. Sc. Thesis, Karary University, 2010.
19. Unspecified Author, Signal Attenuation due to Dust Storm at Ka Band, Engineering Society Journal, 2010.
20. Babiker Behairy, Design of Radar Antijam Unit, Shaheed Zubair Prize Context, 2004.

Teaching Experience

GRADUATE LEVEL

- Signal Analysis in Remote Sensing (ESSTI, Addis Ababa)
- DSP Applications of Communication Systems (UofK)
- Comm Engineering and Transmission Systems (UofK)
- Advanced Digital Signal Processing (KU)
- Advanced Digital Communication (KU, IUO)
- Embedded Systems Design (SUST, KU)
- Advanced Radar Systems (KU)
- Instrumentation and Data Acquisition (Neelain Univ)

UNDERGRADUATE LEVEL

- Wireless Communications (UofK)
- Communication Systems (UofK)
- Satellite Communications (UofK)
- Intro to Comm Networks (UofK)
- Signal and Systems (KU)

- Embedded Systems (KU)
- Digital Signal Processing (KU)
- Spread Spectrum Systems (KU)
- Analogue Communication (KU)
- Communication Electronics (KU)
- Transmitters and Receivers (KU)
- Radar Theory and Radar Systems (KU, SUST)
- Remote Sensing (KU)
- Surveillance Systems (SUST)
- Principles of Guidance (KU)

SHORT PROFESSIONAL COURSES

- Signal Analysis and Processing
- Embedded Systems Design
- Applied Digital Electronics
- Electronic Circuit Design and Simulation
- Computer Interfacing
- C/C++ and Visual Basic Languages

Conferences and Workshops

1. The 2nd BIRDS Cube Satellites Network Workshop, Organized by Kyushu Institute of Technology (Japan), Koforidua, Ghana, 20-23 Nov 2017.
2. The 5th International Conference on Aerospace Science and Engineering ICASE, Institute of Space Technology, Islamabad, Pakistan, 14-16 Nov 2017.
3. The 4th Middle East and Africa IAU Regional Meeting, MEARIM IV Symposium, Addis Ababa, Ethiopia, 22-25 May 2017.
4. IEEE International Conference on Communication, Control, Computing and Electronics Engineering, ICCCEE17, Khartoum, 16-17 Jan 2017.
5. UN/Iran Workshop on the Use of Space Technology for Dust Storm and Drought Monitoring in the Middle East Region Workshop, Tehran, 5-9 Nov 2016.
6. The 1st Ministerial Level International Space Forum on Space Science and Academy for Global Challenges, Trento, Italy, 23-24 Oct 2016.
7. United Nations 59th Session of the Committee on the Peaceful Uses of Outer Space (COPUOS), Vienna, Austria, 7-16 June 2016.
8. Space 2016, 2nd ICAO/UNOOSA Symposium, Rosewood Hotel, Abu Dhabi, UAE, 15-17 March 2016.
9. Global Aerospace Summit 2016, Abu Dhabi, UAE, 5-10 March 2016.

10. 3rd International African CubeSat Workshop, IACW2016, Cape Peninsula University of Technology Cape Town, South Africa, 24 – 26 Feb 2016.
11. The 7th Graduate School Annual Conference, University of Khartoum, SGCAC 2016, 20–23 Feb 2016.
12. The 10th Scientific Conference of the National Center for Research, Khartoum, 1-3 Dec 2015.
13. IEEE International Conference on Computing, Control, Networking, Electronics & Embedded Systems Engineering, ICCNEEE15, Khartoum, 7-9 Sept 2015.
14. Multilateral Negotiations on an International Code of Conduct for Outer Space Activities, Organized by UNODA, UNHQ, New York, USA, 27-31 July 2015.
15. Space Technology Workshop, Organized by South African National Space Agency (SANSA) and ISRA, Khartoum, 12-14 June 2015.
16. Global Space and Satellite Forum (GSSF2015), ADNEC, Abu Dhabi, 26-27 May 2015.
17. Military Satellite Communication, MilSatCom 2015, Ritz Carlton Hotel, Abu Dhabi, United Arab Emirates, 24-26 Feb 2015.
18. ISNET/TUBITAK UZAY Workshop on Small Satellite Engineering and Design for OIC Countries, Ankara, Turkey, 20-24 Oct 2014.
19. United Nations 57th Session of the Committee on the Peaceful Uses of Outer Space (COPUOS), Vienna, Austria, 11-20 June 2014.
20. Global Aerospace Summit 2014, St. Regis Hotel, Abu Dhabi, UAE, 7-8 April 2014.
21. Military Satellite Communication, MilSatCom 2014, St. Regis Hotel, Abu Dhabi, United Arab Emirates, 6 April 2014.
22. Global Monitoring for Environment and Security (GMES) and Africa Validation and Consolidation Workshop, African Union Commission, Johannesburg, South Africa, 24-25 Oct-2013.
23. IEEE International Conference on Computing, Electrical and Electronics Engineering, ICCEEE 2013, Khartoum, 26-28 Aug 2013.
24. LTE Seminar, Agilent Technologies and Emitac Measurement Solutions, Rochester Institute of Technology, Dubai, Nov 2012.
25. The 5th Telecom Forum for ARABSAT, Fairmont Dubai Hotel, Dubai, 21-22 Nov, 2012.
26. Conference on Combat of Electronic Threat, Military Intelligence Authority, Khartoum, 29-30 Dec 2010.
27. Astronomy Conference, Arab Union for Astronomy and Space Sciences & University of Khartoum, Khartoum, 17-19 Nov 2009.
28. The IET International Radar Conference, Guilin, China, April 2009.
29. Graduation Research Project Workshop, Sudan University of Science and Technology, Nov 2008.
30. The 12th International Conference on Aerospace Sciences and Aviation Technology, Military Technical College, Cairo, Egypt, May 2007.

PUBLIC PRESENTATIONS

1. Effects of Scientific and Technical Sanctions on the Sectors of Space and Aerospace in Sudan, 59th Session of the Committee on the Peaceful Uses of Outer Space, Vienna, Austria, 15 June 2016.
2. Role of Research Centers in Developing the EO and Satellite Imagery Sector, Current State of the Earth Observation Sector and Future Direction Session, Global Space & Satellite Forum GSSF 2015, Abu Dhabi, 26 May 2015.
3. Future Vision for CubeSat Project at UofK, Ministerial Meeting, 22 July 2014.
4. Electronic Warfare, Conference of Combat of Electronic Threat, Military Intelligence Authority, Khartoum, 29 Dec 2010.
5. Unmanned Aerial Vehicle, NCTR Forum, 4 Aug 2010.
6. Saafat Complex Launch Ceremony, Video Speech, Jun 2009.
7. Master Research Project Proposals, Sudan University of Science and Technology, March 2009.
8. Applied Research for B.Sc. Students of Electrical and Electronic Engineering, Graduation Research Project Workshop, NCTR and SUST, Nov 2008.

TV, RADIO INTERVIEWS AND ONLINE PRESENTATIONS

- Several online lectures on more than ten TV and radio interviews and programs regarding space science and technology.
- Personal YouTube Channel at:
[youtube.com /channel/UCpogaXZy3PeAxw00Ib54i8A?view_as=subscriber](https://www.youtube.com/channel/UCpogaXZy3PeAxw00Ib54i8A?view_as=subscriber)